



Agency for Healthcare Research and Quality  
Advancing Excellence in Health Care



NATIONAL  
**GUIDELINE**  
CLEARINGHOUSE

## General

### Guideline Title

Screening for chronic kidney disease: U.S. Preventive Services Task Force recommendation statement

### Bibliographic Source(s)

U.S. Preventive Services Task Force (USPSTF). Screening for chronic kidney disease: U.S. Preventive Services Task Force recommendation statement. Ann Intern Med. 2012 Oct 16;157(8):567-70. [10 references] [PubMed](#)

### Guideline Status

This is the current release of the guideline.

## Recommendations

### Major Recommendations

The U.S. Preventive Services Task Force (USPSTF) grades its recommendations (A, B, C, D, or I) and identifies the levels of certainty regarding net benefit (High, Moderate, and Low). The definitions of these grades can be found at the end of the "Major Recommendations" field.

#### Summary of Recommendation and Evidence

The USPSTF concludes that the evidence is insufficient to assess the balance of benefits and harms of routine screening for chronic kidney disease (CKD) in asymptomatic adults. (I statement)

Common tests considered for CKD screening include creatinine-derived estimates of glomerular filtration rate (GFR) and urine testing for albumin. Testing for and monitoring CKD for the purposes of chronic disease management (including testing and monitoring patients with diabetes or hypertension) are not covered by this recommendation.

See the Clinical Considerations section for suggestions for practice regarding the I statement.

#### Clinical Considerations

##### Patient Population under Consideration

This recommendation applies to asymptomatic adults without diagnosed CKD. Testing for and monitoring CKD for the purpose of chronic disease management (including monitoring patients with diabetes or hypertension) are not covered by this recommendation.

##### Suggestions for Practice Regarding the I Statement

## Potential Preventable Burden and Benefits

Chronic kidney disease is very prevalent; in 2011, 11% of the U.S. general population had the condition. However, most affected persons have risk factors for CKD, particularly older age, diabetes, and hypertension. It is usually asymptomatic until its advanced stages. Although there is no evidence on the benefits and harms of screening in the general population of asymptomatic adults, evidence shows that specific treatments for patients with diabetes reduce risk for advanced CKD. The American Diabetes Association recommends screening for CKD in all patients with diabetes. The USPSTF found very limited evidence about whether knowledge of CKD status in patients with isolated hypertension (those who do not also have diabetes or cardiovascular disease) helps in making treatment decisions. However, several organizations recommend screening patients who are being treated for hypertension, including the National Institutes of Health's Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure.

## Potential Harms

For adults without diabetes or hypertension, risk for CKD and subsequent adverse outcomes resulting from CKD is small. How many persons with a positive screening test for CKD who will be confirmed to have CKD is unknown. There are no studies on the benefits of early treatment in persons without diabetes or hypertension. Persons who have positive results on a screening test for CKD but do not have CKD may experience the harms associated with interventions and treatments without the potential for benefit.

## Current Practice

Serum creatinine testing is widely done for various reasons in clinical practice, including chronic disease management for patients with hypertension and diabetes. Many patients with CKD stages 1 to 3 seem to have at least some testing in usual clinical care, probably for other conditions or in response to guidelines from other organizations.

## Risk Assessment

No generally accepted risk assessment tool for CKD or risk for complications of CKD exists. Diabetes and hypertension are well-established risk factors with a strong link to CKD. Other risk factors for CKD include older age, cardiovascular disease, obesity, and family history.

## Screening Tests

Although evidence to recommend routine screening is insufficient, the tests often suggested for screening that are feasible in primary care include testing the urine for protein (microalbuminuria or macroalbuminuria) and testing the blood for serum creatinine to estimate GFR. No studies have evaluated the sensitivity and specificity of 1-time testing with either or both tests for diagnosis of CKD, defined as decreased kidney function or kidney damage persisting for at least 3 months.

## Treatment

Treatment of early stages of CKD is generally targeted to comorbid medical conditions, such as diabetes, hypertension, and cardiovascular disease, to reduce the risk for complications and progression of CKD. These treatments include blood pressure medications (particularly angiotensin-converting enzyme inhibitors and angiotensin II–receptor blockers), lipid-lowering agents, and diet modification.

## Definitions:

What the U.S. Preventive Services Task Force (USPSTF) Grades Mean and Suggestions for Practice

Grade	Grade Definitions	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer or provide this service.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.	Offer or provide this service.
C	<i>Note: The following statement is undergoing revision.</i>  Clinicians may provide this service to selected patients depending on individual circumstances. However, for most individuals without signs or symptoms there is likely to be only	Offer or provide this service only if other considerations support offering or providing the service in an individual patient.

Grade D	a small benefit from this service. Grade Definitions The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Suggestions for Practice Discourage the use of this service.
I Statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.	Read the "Clinical Considerations" section of the USPSTF Recommendation Statement (see "Major Recommendations" field). If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

#### USPSTF Levels of Certainty Regarding Net Benefit

Definition: The USPSTF defines *certainty* as "likelihood that the USPSTF assessment of the net benefit of a preventive service is correct." The net benefit is defined as benefit minus harm of the preventive service as implemented in a general, primary care population. The USPSTF assigns a certainty level based on the nature of the overall evidence available to assess the net benefit of a preventive service.

Level of Certainty	Description
High	The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.
Moderate	<p>The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by factors such as:</p> <ul style="list-style-type: none"> <li>• The number, size, or quality of individual studies</li> <li>• Inconsistency of findings across individual studies</li> <li>• Limited generalizability of findings to routine primary care practice</li> <li>• Lack of coherence in the chain of evidence</li> </ul> <p>As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.</p>
Low	<p>The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of:</p> <ul style="list-style-type: none"> <li>• The limited number or size of studies</li> <li>• Important flaws in study design or methods</li> <li>• Inconsistency of findings across individual studies</li> <li>• Gaps in the chain of evidence</li> <li>• Findings not generalizable to routine primary care practice</li> <li>• A lack of information on important health outcomes</li> </ul> <p>More information may allow an estimation of effects on health outcomes.</p>

## Clinical Algorithm(s)

None provided

## Scope

## Disease/Condition(s)

Chronic kidney disease

## Guideline Category

Prevention

Screening

## Clinical Specialty

Family Practice

Internal Medicine

Nephrology

Preventive Medicine

Urology

## Intended Users

Advanced Practice Nurses

Allied Health Personnel

Nurses

Physician Assistants

Physicians

## Guideline Objective(s)

To summarize the U.S. Preventive Services Task Force (USPSTF) recommendations on screening for chronic kidney disease, including evidence on screening, accuracy of screening, early treatment, and harms of screening and early treatment

## Target Population

Asymptomatic adults without diagnosed chronic kidney disease (CKD)

Note: This recommendation does *not* apply to patients undergoing testing for and monitoring CKD for the purpose of chronic disease management (including testing and monitoring patients with diabetes or hypertension)

## Interventions and Practices Considered

Routine screening for chronic kidney disease using common tests such as creatinine-derived estimates of glomerular filtration rate (GFR) and urine testing for albumin

## Major Outcomes Considered

Key Question 1: In asymptomatic adults with or without recognized risk factors for chronic kidney disease (CKD) incidence, progression, or complications, what direct evidence is there that systematic CKD screening improves clinical outcomes?

Key Question 2: What harms result from systematic CKD screening in asymptomatic adults with or without recognized risk factors for CKD incidence, progression, or complications?

Key Question 3: Among adults with CKD stages 1–3, whether detected by systematic screening or as part of routine care, what direct evidence is there that monitoring for worsening kidney function and/or kidney damage improves clinical outcomes?

Key Question 4: Among adults with CKD stages 1–3, whether detected by systematic screening or as part of routine care, what harms result from monitoring for worsening kidney function/kidney damage?

Key Question 5: Among adults with CKD stages 1–3, whether detected by systematic screening or as part of routine care, what direct evidence is there that treatment improves clinical outcomes?

Key Question 6: Among adults with CKD stages 1–3, whether detected by systematic screening or as part of routine care, what harms result from treatment?

## Methodology

### Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

### Description of Methods Used to Collect/Select the Evidence

Note from the National Guideline Clearinghouse (NGC): A systematic evidence review was prepared by the Minnesota Evidence-based Practice Center (EPC) for use by the U.S. Preventive Services Task Force (USPSTF) (see the "Availability of Companion Documents" field).

Data Sources

EPC staff searched MEDLINE to identify randomized, controlled trials (RCTs) published from 1985 to 25 November 2011. The staff manually reviewed reference lists of relevant articles and articles suggested by experts. For complete search strategies, see Appendix 1 of the evidence review.

Study Selection

Reviewers applied separate eligibility criteria for chronic kidney disease (CKD) screening, monitoring, and treatment (see Appendix 2 of the evidence review). Trained reviewers examined titles, abstracts, and full articles for eligibility. A second reviewer evaluated a 10% sample of abstracts. When discrepancies were identified, all abstracts initially reviewed by 1 reviewer were reviewed by a second reviewer. Randomized, controlled trials that included participants who at least approximated the definitions for CKD stages 1 to 3 were considered to be eligible for the questions about CKD monitoring and treatment. Only English-language studies were included.

### Number of Source Documents

Key Questions 1 and 2: 0 eligible clinical trials

Key Questions 3 and 4: 0 eligible clinical trials

Key Questions 5 and 6: 110 eligible randomized controlled trials/controlled clinical trials

### Methods Used to Assess the Quality and Strength of the Evidence

Expert Consensus

### Rating Scheme for the Strength of the Evidence

Not applicable

## Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

## Description of the Methods Used to Analyze the Evidence

Note from the National Guideline Clearinghouse (NGC): A systematic evidence review was prepared by the Minnesota Evidence-based Practice Center (EPC) for use by the U.S. Preventive Services Task Force (USPSTF) (see the "Availability of Companion Documents" field).

### Data Extraction and Quality Assessment

For each article, a first reviewer extracted details on study design, participant characteristics, outcomes, and adverse events and rated study quality. A second reviewer checked the extracted data for accuracy. A priori, reviewers selected mortality and end-stage renal disease (ESRD) as the primary efficacy outcomes, followed by clinical cardiovascular events (for example, myocardial infarction [MI], stroke, and congestive heart failure [CHF]), and composite vascular and renal outcomes that included these outcomes. Biochemical outcomes, such as halving of glomerular filtration rate (GFR), doubling of serum creatinine, and conversion from microalbuminuria to macroalbuminuria, were considered secondary and are reported in Supplements 1, 2, and 3 of the Evidence Review (see the "Availability of Companion Documents" field). By using criteria developed by the Cochrane Collaboration, the reviewers rated individual randomized controlled trial quality as good, fair, or poor on the basis of the adequacy of allocation concealment, blinding, reporting of reasons for attrition, and how analyses accounted for incomplete data. By using methods developed by the Agency for Healthcare Research and Quality (AHRQ) and the Effective Health Care Program, the reviewers evaluated overall strength of evidence for mortality and ESRD outcomes for each treatment comparison on the basis of the criteria of risk for bias, consistency, directness, and precision (see Appendix Table 1 of the Evidence Review). Discrepancies were resolved in quality and strength of evidence ratings by discussion and consensus.

### Data Synthesis and Analysis

Reviewers pooled results if clinical heterogeneity of patient populations, interventions, and outcomes was minimal. Data were analyzed in Review Manager 5.0 (Cochrane Collaboration, Oxford, United Kingdom). Random-effects models were used to generate pooled estimates of relative risks (RRs) and 95% confidence interval (CI). Statistical heterogeneity was summarized by using the  $I^2$  statistic. When there were few randomized controlled trials for a given treatment and no overlap of reported outcomes, the data were synthesized qualitatively.

## Methods Used to Formulate the Recommendations

Balance Sheets

Expert Consensus

## Description of Methods Used to Formulate the Recommendations

The U.S. Preventive Services Task Force (USPSTF) systematically reviews the evidence concerning both the benefits and harms of widespread implementation of a preventive service. It then assesses the certainty of the evidence and the magnitude of the benefits and harms. On the basis of this assessment, the USPSTF assigns a letter grade to each preventive service signifying its recommendation about provision of the service (see Table below). An important, but often challenging, step is determining the balance between benefits and harms to estimate "net benefit" (that is, benefits minus harms).

Table 1. U.S. Preventive Services Task Force Recommendation Grid\*

Certainty of Net Benefit	Magnitude of Net Benefit			
	Substantial	Moderate	Small	Zero/Negative

High Certainty of Net Benefit	A Magnitude of Net Benefit	B	C	D
Moderate	B Substantial	B Moderate	C Small	D Zero/Negative
Low	Insufficient			

\*A, B, C, D, and I (*Insufficient*) represent the letter grades of recommendation or statement of insufficient evidence assigned by the U.S. Preventive Services Task Force after assessing certainty and magnitude of net benefit of the service (see the "Rating Scheme for the Strength of the Recommendations" field).

The overarching question that the Task Force seeks to answer for every preventive service is whether evidence suggests that provision of the service would improve health outcomes if implemented in a general primary care population. For screening topics, this standard could be met by a large randomized, controlled trial (RCT) in a representative asymptomatic population with follow-up of all members of both the group "invited for screening" and the group "not invited for screening."

Direct RCT evidence about screening is often unavailable, so the Task Force considers indirect evidence. To guide its selection of indirect evidence, the Task Force constructs a "chain of evidence" within an analytic framework. For each key question, the body of pertinent literature is critically appraised, focusing on the following 6 questions:

1. Do the studies have the appropriate research design to answer the key question(s)?
2. To what extent are the existing studies of high quality? (i.e., what is the internal validity?)
3. To what extent are the results of the studies generalizable to the general U.S. primary care population and situation? (i.e., what is the external validity?)
4. How many studies have been conducted that address the key question(s)? How large are the studies? (i.e., what is the precision of the evidence?)
5. How consistent are the results of the studies?
6. Are there additional factors that assist the USPSTF in drawing conclusions (e.g., presence or absence of dose–response effects, fit within a biologic model)?

The next step in the Task Force process is to use the evidence from the key questions to assess whether there would be net benefit if the service were implemented. In 2001, the USPSTF published an article that documented its systematic processes of evidence evaluation and recommendation development. At that time, the Task Force's overall assessment of evidence was described as good, fair, or poor. The Task Force realized that this rating seemed to apply only to how well studies were conducted and did not fully capture all of the issues that go into an overall assessment of the evidence about net benefit. To avoid confusion, the Task Force has changed its terminology. Whereas individual study quality will continue to be characterized as good, fair, or poor, the term *certainty* will now be used to describe the Task Force's assessment of the overall body of evidence about net benefit of a preventive service and the likelihood that the assessment is correct. Certainty will be determined by considering all 6 questions listed above; the judgment about certainty will be described as high, moderate, or low.

In making its assessment of certainty about net benefit, the evaluation of the evidence from each key question plays a primary role. It is important to note that the Task Force makes recommendations for real-world medical practice in the United States and must determine to what extent the evidence for each key question—even evidence from screening RCTs or treatment RCTs—can be applied to the general primary care population. Frequently, studies are conducted in highly selected populations under special conditions. The Task Force must consider differences between the general primary care population and the populations studied in RCTs and make judgments about the likelihood of observing the same effect in actual practice.

It is also important to note that one of the key questions in the analytic framework refers to the potential harms of the preventive service. The Task Force considers the evidence about the benefits and harms of preventive services separately and equally. Data about harms are often obtained from observational studies because harms observed in RCTs may not be representative of those found in usual practice and because some harms are not completely measured and reported in RCTs.

Putting the body of evidence for all key questions together as a chain, the Task Force assesses the certainty of net benefit of a preventive service by asking the 6 major questions listed above. The Task Force would rate a body of convincing evidence about the benefits of a service that, for example, derives from several RCTs of screening in which the estimate of benefits can be generalized to the general primary care population as "high" certainty (see the "Rating Scheme for the Strength of Recommendations" field). The Task Force would rate a body of evidence that was not clearly applicable to general practice or has other defects in quality, research design, or consistency of studies as "moderate" certainty. Certainty is "low" when, for example, there are gaps in the evidence linking parts of the analytic framework, when evidence to determine the harms of treatment is unavailable, or when evidence about the benefits of treatment is insufficient. Table 4 in the methodology document listed below (see the



"Availability of Companion Documents" field) summarizes the current terminology used by the Task Force to describe the critical assessment of evidence at all 3 levels: individual studies, key questions, and overall certainty of net benefit of the preventive service.

Sawaya GF et al. Update on the methods of the U.S. Preventive Services Task Force: estimating certainty and magnitude of net benefit. *Ann Intern Med.* 2007;147:871-875 [5 references].

## I Statements

For I statements, the USPSTF has a new plan to commission its Evidence-based Practice Centers to collect information in 4 domains pertinent to clinical decisions about prevention and to report this information routinely. This plan is described in the paper: Petitti DB et al. Update on the methods of the U.S. Preventive Services Task Force: insufficient evidence. *Ann Intern Med.* 2009;150:199-205. <http://annals.org/article.aspx?articleid=744255> .

The first domain is potential preventable burden of suffering from the condition. When evidence is insufficient, provision of an intervention designed to prevent a serious condition (such as dementia) might be viewed more favorably than provision of a service designed to prevent a condition that does not cause as much suffering (such as rash). The USPSTF recognized that "burden of suffering" is subjective and involves judgment. In clinical settings, it should be informed by patient values and concerns.

The second domain is potential harm of the intervention. When evidence is insufficient, an intervention with a large potential for harm (such as major surgery) might be viewed less favorably than an intervention with a small potential for harm (such as advice to watch less television). The USPSTF again acknowledges the subjective nature and the difficulty of assessing potential harms: for example, how bad is a "mild" stroke?

The third domain is cost—not just monetary cost, but opportunity cost, in particular the amount of time a provider spends to provide the service, the amount of time the patient spends to partake of it, and the benefits that might derive from alternative uses of the time or money for patients, clinicians, or systems. Consideration of clinician time is especially important for preventive services with only insufficient evidence because providing them could "crowd out" provision of preventive services with proven value, services for conditions that require immediate action, or services more desired by the patient. For example, a decision to routinely inspect the skin could take up the time available to discuss smoking cessation, or to address an acute problem or a minor injury that the patient considers important.

The fourth domain is current practice. This domain was chosen because it is important to clinicians for at least 2 reasons. Clinicians justifiably fear that not doing something that is done on a widespread basis in the community may lead to litigation. More important, addressing patient expectations is a crucial part of the clinician–patient relationship in terms of building trust and developing a collaborative therapeutic relationship. The consequences of not providing a service that is neither widely available nor widely used are less serious than not providing a service accepted by the medical profession and thus expected by patients. Furthermore, ingrained care practices are difficult to change, and efforts should preferentially be directed to changing those practices for which the evidence to support change is compelling.

Although the reviewers did not explicitly recognize it when these domains were chosen, the domains all involve consideration of the potential consequences—for patients, clinicians, and systems—of providing or not providing a service. Others writing about medical decision making in the face of uncertainty have suggested that the consequences of action or inaction should play a prominent role in decisions.

## Rating Scheme for the Strength of the Recommendations

What the U.S. Preventive Services Task Force (USPSTF) Grades Mean and Suggestions for Practice

Grade	Grade Definitions	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer or provide this service.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.	Offer or provide this service.
C	<i>Note: The following statement is undergoing revision.</i>  Clinicians may provide this service to selected patients depending on individual circumstances. However, for most individuals without signs or symptoms there is likely to be only	Offer or provide this service only if other considerations support offering or providing the service in an individual patient.



Grade	Grade Definitions	Suggestions for Practice
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Discourage the use of this service.
I Statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.	Read the "Clinical Considerations" section of the USPSTF Recommendation Statement (see "Major Recommendations" field). If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

#### USPSTF Levels of Certainty Regarding Net Benefit

Definition: The USPSTF defines *certainty* as "likelihood that the USPSTF assessment of the net benefit of a preventive service is correct." The net benefit is defined as benefit minus harm of the preventive service as implemented in a general, primary care population. The USPSTF assigns a certainty level based on the nature of the overall evidence available to assess the net benefit of a preventive service.

Level of Certainty	Description
High	The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.
Moderate	<p>The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by factors such as:</p> <ul style="list-style-type: none"> <li>• The number, size, or quality of individual studies</li> <li>• Inconsistency of findings across individual studies</li> <li>• Limited generalizability of findings to routine primary care practice</li> <li>• Lack of coherence in the chain of evidence</li> </ul> <p>As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.</p>
Low	<p>The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of:</p> <ul style="list-style-type: none"> <li>• The limited number or size of studies</li> <li>• Important flaws in study design or methods</li> <li>• Inconsistency of findings across individual studies</li> <li>• Gaps in the chain of evidence</li> <li>• Findings not generalizable to routine primary care practice</li> <li>• A lack of information on important health outcomes</li> </ul> <p>More information may allow an estimation of effects on health outcomes.</p>

## Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

## Method of Guideline Validation

Comparison with Guidelines from Other Groups

External Peer Review

Internal Peer Review

## Description of Method of Guideline Validation

Peer Review. Before the U.S. Preventive Services Task Force (USPSTF) makes its final determinations about recommendations on a given preventive service, the Evidence-based Practice Center and the Agency for Healthcare Research and Quality send a draft evidence review to 4 to 6 external experts and to Federal agencies and professional and disease-based health organizations with interests in the topic. The experts are asked to examine the review critically for accuracy and completeness and to respond to a series of specific questions about the document. After assembling these external review comments and documenting the proposed response to key comments, the topic team presents this information to the USPSTF in memo form. In this way, the USPSTF can consider these external comments before it votes on its recommendations about the service. Draft recommendation statements are then circulated for comment among reviewers representing professional societies, voluntary organizations, and Federal agencies, as well as posted on the Task Force Web site for public comment. These comments are discussed before the final recommendations are confirmed.

Response to Public Comment. A draft version of this recommendation statement was posted for public comment on the USPSTF Web site from 30 April through 29 May 2012. Most commenters agreed with the USPSTF statement. Several comments requested clarification that this recommendation does not apply to persons with diabetes or hypertension. This information was provided in several places in the statement.

Comparison with Guidelines from Other Groups. Recommendations for screening from the following groups were discussed: the National Kidney Foundation, the American Diabetes Association, and the National Institutes of Health's Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure.

## Evidence Supporting the Recommendations

### Type of Evidence Supporting the Recommendations

The type of supporting evidence is not specifically stated for each recommendation.

## Benefits/Harms of Implementing the Guideline Recommendations

### Potential Benefits

Benefits of Detection and Early Intervention and Treatment

Evidence that routine screening for chronic kidney disease (CKD) improves clinical outcomes for asymptomatic adults is inadequate.

### Potential Harms

Potential harms of screening include adverse effects from venipuncture and psychological effects of labeling a person with CKD. The U.S. Preventive Services Task Force (USPSTF) found no studies on these potential harms. The most important potential for harm could occur as a result of false-positive test results. Patients could be falsely identified as having CKD and receive unnecessary treatment and diagnostic interventions, with their resultant harmful effects.

Harms of Detection and Early Intervention and Treatment

Evidence on the harms of screening for chronic kidney disease (CKD) is inadequate. However, convincing evidence shows that medications used to treat early CKD may have adverse effects.

## Qualifying Statements

### Qualifying Statements

- The U.S. Preventive Services Task Force (USPSTF) makes recommendations about the effectiveness of specific clinical preventive services for patients without related signs or symptoms.
- It bases its recommendations on the evidence of both the benefits and harms of the service and an assessment of the balance. The USPSTF does not consider the costs of providing a service in this assessment.
- The USPSTF recognizes that clinical decisions involve more considerations than evidence alone. Clinicians should understand the evidence but individualize decision making to the specific patient or situation. Similarly, the USPSTF notes that policy and coverage decisions involve considerations in addition to the evidence of clinical benefits and harms.
- Recommendations made by the USPSTF are independent of the U.S. government. They should not be construed as an official position of the Agency for Healthcare Research and Quality or the U.S. Department of Health and Human Services.

## Implementation of the Guideline

### Description of Implementation Strategy

The experiences of the first and second U.S. Preventive Services Task Force (USPSTF), as well as that of other evidence-based guideline efforts, have highlighted the importance of identifying effective ways to implement clinical recommendations. Practice guidelines are relatively weak tools for changing clinical practice when used in isolation. To effect change, guidelines must be coupled with strategies to improve their acceptance and feasibility. Such strategies include enlisting the support of local opinion leaders, using reminder systems for clinicians and patients, adopting standing orders, and audit and feedback of information to clinicians about their compliance with recommended practice.

In the case of preventive services guidelines, implementation needs to go beyond traditional dissemination and promotion efforts to recognize the added patient and clinician barriers that affect preventive care. These include clinicians' ambivalence about whether preventive medicine is part of their job, the psychological and practical challenges that patients face in changing behaviors, lack of access to health care or of insurance coverage for preventive services for some patients, competing pressures within the context of shorter office visits, and the lack of organized systems in most practices to ensure the delivery of recommended preventive care.

Dissemination strategies have changed dramatically in this age of electronic information. While recognizing the continuing value of journals and other print formats for dissemination, the USPSTF will make all its products available through its [Web site](#) . The combination of electronic access and extensive material in the public domain should make it easier for a broad audience of users to access USPSTF materials and adapt them for their local needs. Online access to USPSTF products also opens up new possibilities for the appearance of the annual, pocket-size *Guide to Clinical Preventive Services*.

To be successful, approaches for implementing prevention have to be tailored to the local level and deal with the specific barriers at a given site, typically requiring the redesign of systems of care. Such a systems approach to prevention has had notable success in established staff-model health maintenance organizations, by addressing organization of care, emphasizing a philosophy of prevention, and altering the training and incentives for clinicians. Staff-model plans also benefit from integrated information systems that can track the use of needed services and generate automatic reminders aimed at patients and clinicians, some of the most consistently successful interventions. Information systems remain a major challenge for individual clinicians' offices, however, as well as for looser affiliations of practices in network-model managed care and independent practice associations, where data on patient visits, referrals, and test results are not always centralized.

### Implementation Tools

Foreign Language Translations

Mobile Device Resources

Patient Resources

Pocket Guide/Reference Cards

Staff Training/Competency Material

For information about availability, see the *Availability of Companion Documents and Patient Resources* fields below.

# Institute of Medicine (IOM) National Healthcare Quality Report Categories

## IOM Care Need

Staying Healthy

## IOM Domain

Effectiveness

Patient-centeredness

## Identifying Information and Availability

### Bibliographic Source(s)

U.S. Preventive Services Task Force (USPSTF). Screening for chronic kidney disease: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med.* 2012 Oct 16;157(8):567-70. [10 references] [PubMed](#)

### Adaptation

Not applicable: The guideline was not adapted from another source.

### Date Released

2012 Oct 16

### Guideline Developer(s)

U.S. Preventive Services Task Force - Independent Expert Panel

### Guideline Developer Comment

The U.S. Preventive Services Task Force (USPSTF) is a federally-appointed panel of independent experts. Conclusions of the USPSTF do not necessarily reflect policy of the U.S. Department of Health and Human Services (DHHS) or its agencies.

### Source(s) of Funding

The U.S. Preventive Services Task Force (USPSTF) is an independent, voluntary body. The U.S. Congress mandates that the Agency for Healthcare Research and Quality support the operations of the USPSTF.

### Guideline Committee

U.S. Preventive Services Task Force (USPSTF)

## Composition of Group That Authored the Guideline

*Task Force Members\**: Virginia A. Moyer, MD, MPH (*Chair*) (Baylor College of Medicine, Houston, Texas); Michael L. LeFevre, MD, MSPH (*Co-Vice Chair*) (University of Missouri School of Medicine, Columbia, Missouri); Albert L. Siu, MD, MSPH (*Co-Vice Chair*) (Mount Sinai School of Medicine, New York, and James J. Peters Veterans Affairs Medical Center, Bronx, New York); Linda Ciofu Baumann, PhD, RN (University of Wisconsin, Madison, Wisconsin); Kirsten Bibbins-Domingo, PhD, MD (University of California, San Francisco, San Francisco, California); Susan J. Curry, PhD (University of Iowa College of Public Health, Iowa City, Iowa); Mark Ebell, MD, MS (University of Georgia, Athens, Georgia); Glenn Flores, MD (University of Texas Southwestern, Dallas, Texas); Adelita Gonzales Cantu, RN, PhD (University of Texas Health Science Center, San Antonio, Texas); David C. Grossman, MD, MPH (Group Health Cooperative, Seattle, Washington); Jessica Herzstein, MD, MPH (Air Products, Allentown, Pennsylvania); Joy Melnikow, MD, MPH (University of California Davis, Sacramento, California); Wanda K. Nicholson, MD, MPH, MBA (University of North Carolina School of Medicine, Chapel Hill, North Carolina); Douglas K. Owens, MD, MS (Veteran Affairs Palo Alto Health Care System, Palo Alto, and Stanford University, Stanford, California); Carolina Reyes, MD, MPH (Virginia Hospital Center, Arlington, Virginia); and Timothy J. Wilt, MD, MPH (University of Minnesota Department of Medicine and Minneapolis Veteran Affairs Medical Center, Minneapolis, Minnesota). Ned Calonge, MD, MPH, a former U.S. Preventive Services Task Force (USPSTF) member, also contributed to the development of this recommendation.

*\*Members of the USPSTF at the time this recommendation was finalized. For a list of current Task Force members, go to <http://www.uspreventiveservicestaskforce.org/Page/Name/our-members> .*

## Financial Disclosures/Conflicts of Interest

The U.S. Preventive Services Task Force (USPSTF) has an explicit policy concerning conflict of interest. All members disclose at each meeting if they have a significant financial, professional/business, or intellectual conflict for each topic being discussed. USPSTF members with conflicts may be recused from discussing or voting on recommendations about the topic in question.

Disclosure forms from USPSTF members can be viewed at <https://www.acponline.org/authors/icnjje/ConflictOfInterestForms.do?msNum=M12-1735> .

## Guideline Status

This is the current release of the guideline.

## Guideline Availability

Electronic copies: Available from the [Annals of Internal Medicine Web site](#) .

## Availability of Companion Documents

The following are available:

Evidence Reviews:

- Fink HA, Ishani A, Taylor BC, Greer NL, MacDonald R, Rossini D, Sadiq S, Lankireddy S, Kane RL, Wilt TJ. Screening for, monitoring and treatment of chronic kidney disease stages 1 to 3: a systematic review for the U.S. Preventive Services Task Force and for an American College of Physicians clinical practice guideline. *Ann Intern Med* 2012 Apr 17;156:570-581.
- Fink HA, Ishani A, Taylor BC, Greer NL, MacDonald R, Rossini D, Sadiq S, Lankireddy S, Kane RL, Wilt TJ. Chronic Kidney Disease Stages 1–3: Screening, Monitoring, and Treatment. Comparative Effectiveness Review no. 37. AHRQ Publication no. 11(12)-EHC075-EF. Rockville (MD): Agency for Healthcare Research and Quality; 2012.

Electronic copies: Available from the [U.S. Preventive Services Task Force \(USPSTF\) Web site](#) . Supplementary tables to the evidence review are available from the [Annals of Internal Medicine Web site](#) .

Background Articles:

- Barton MB et al. How to read the new recommendation statement: methods update from the U.S. Preventive Services Task Force. *Ann Intern Med* 2007;147:123-127.
- Guirguis-Blake J et al. Current processes of the U.S. Preventive Services Task Force: refining evidence-based recommendation development. *Ann Intern Med* 2007;147:117-122.
- Sawaya GF et al. Update on the methods of the U.S. Preventive Services Task Force: estimating certainty and magnitude of net benefit. *Ann Intern Med* 2007;147:871-875.
- Petitti DB et al. Update on the methods of the U.S. Preventive Services Task Force: insufficient evidence. *Ann Intern Med*. 2009;150:199-205.

Electronic copies: Available from the [U.S. Preventive Services Task Force \(USPSTF\) Web site](#) .

The following are also available:

- Screening for chronic kidney disease. Clinical summary of U.S. Preventive Services Task Force Recommendations. Rockville (MD): Agency for Healthcare Research and Quality; 2012 Jun. Electronic copies: Available from the [USPSTF Web site](#) .
- Screening for chronic kidney disease. CME course. Electronic copies: Available from the [Annals of Internal Medicine Web site](#) .
- The guide to clinical preventive services, 2012. Recommendations of the U.S. Preventive Services Task Force. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2012. 128 p. Electronic copies available from the [AHRQ Web site](#) . See the related QualityTool summary on the [Health Care Innovations Exchange Web site](#) .

A Chinese translation of the recommendation only is available from the [Annals of Internal Medicine Web site](#) .

The [Electronic Preventive Services Selector \(ePSS\)](#) , available as a PDA application and a web-based tool, is a quick hands-on tool designed to help primary care clinicians identify the screening, counseling, and preventive medication services that are appropriate for their patients. It is based on current recommendations of the USPSTF and can be searched by specific patient characteristics such as age, sex, and selected behavioral risk factors.

## Patient Resources

The following are available:

- Screening for chronic kidney disease. Understanding Task Force recommendations. U.S. Preventive Services Task Force. Consumer fact sheet. 2012 Jun. 3 p. Electronic copies: [Available from the U.S. Preventive Services Task Force Web site](#) .
- Women: stay healthy at any age. Rockville (MD): Agency for Healthcare Research and Quality. AHRQ Pub. No. 10-IP002-A. 2010 Aug. 2 p. Electronic copies: Available in Portable Document Format (PDF) in [English](#)  and [Spanish](#)  from the AHRQ Web site. See the related QualityTool summary on the [Health Care Innovations Exchange Web site](#) .
- Men: stay healthy at any age. Rockville (MD): Agency for Healthcare Research and Quality. AHRQ Pub. No. 10-IP004-A. 2010 Aug. 2 p. Electronic copies: Available in PDF in [English](#)  and [Spanish](#)  from the AHRQ Web site. See the related QualityTool summary on the [Health Care Innovations Exchange Web site](#) .

Print copies: Available in English and Spanish from the Agency for Healthcare Research and Quality (AHRQ) Publications Clearinghouse. For more information, go to <http://www.ahrq.gov/research/publications/index.html>  or call 1-800-358-9295 (U.S. only).

Myhealthfinder is a new tool that provides personalized recommendations for clinical preventive services specific to the user's age, gender, and pregnancy status. It features evidence-based recommendations from the USPSTF and is available at [www.healthfinder.gov](http://www.healthfinder.gov) .

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original

guideline's content.

## NGC Status

This NGC summary was completed by ECRI Institute on November 15, 2012. The information was verified by the guideline developer on November 21, 2012.

## Copyright Statement

Requests regarding copyright should be sent to: Lisa S. Nicolella, Senior Editor, Office of Communications and Knowledge Transfer, Agency for Healthcare Research and Quality, 540 Gaither Road, Rockville, MD 20850; E-mail: [lisa.nicolella@ahrq.hhs.gov](mailto:lisa.nicolella@ahrq.hhs.gov).

## Disclaimer

### NGC Disclaimer

The National Guideline Clearinghouse<sup>â„¢</sup> (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria which may be found at <http://www.guideline.gov/about/inclusion-criteria.aspx>.

NGC, AHRQ, and its contractor ECRI Institute make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI Institute, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.